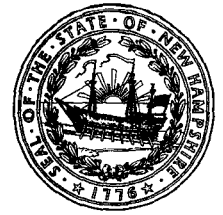




The State of New Hampshire  
*Department of Environmental Services*



Michael P. Nolin  
Commissioner

April 16, 2004  
**Letter of Deficiency**  
DSP#04-025

Mr. Doug Starr  
Town Engineer  
Public Works Dept.  
Town of Jaffrey  
10 Goodnow Street  
Jaffrey, NH 03452

RE: Poole Reservoir Dam #124.14, Jaffrey

Dear Mr. Starr:

The Department of Environmental Services, Dam Bureau (DES) consistently strives to enhance the safety of dams in New Hampshire through its dam safety program. One of the many instruments that play a part in reaching this goal is our inspection program. DES is forwarding this correspondence to you to advise you that in accordance with RSA 482:12 and Env-Wr 502.02, an inspection of the subject dam was conducted on March 16, 2004. The inspection was conducted due to a report of excess seepage through the face of the left stone masonry wall. The seepage flow appeared to be approximately 2 to 3 gallons per minute and was less severe than previous seepage issues. It was also indicated that the previous grouting program conducted in 1982 did not include the stonewall left of the overflow spillway where the leaking is now occurring. At this time the leaking does not appear to be an immediate structural issue however, in time could increase and lead to further structural weakening.

The following is the status of repairs as outlined in a Letter of Deficiency dated October 19, 2001:

1. Repair the crack on top of the left upstream retaining wall, toward the far upstream side. **This has not been completed;**
2. Patch the small area of spalling on the spillway crest – near the left spillway training wall toward the downstream side. **This has not been completed;**
3. Repair the cracks on top, along the upstream and downstream portions, of the right abutment walls, grass growing through cracks. **This has not been completed;**
4. Fill and level the right earthen embankment near the area that is not flush with the top of the right spillway abutment. **This had not been completed;**
5. Fill and re-vegetate the erosion hole occurring on the left embankment, downstream side. **This could not be seen on this date due to snow cover;**
6. Cut all trees on the left embankment – from the park sign toward the dam. **The large trees and some brush still remain along the left embankment. Including one large beech tree near the base of the right downstream concrete masonry-training wall;**

7. Mow earthen embankments and the left embankment. There is undesirable vegetation growth on both the right and left embankment sections. **It appears that some of the undesirable low vegetation has been cut with limited re-growth;**
8. After mowing, check for rodent holes and fill if necessary. **No rodent holes were observed on this date however, there was snow cover along the downstream face of the dam;**
9. Remove the brush on the upstream side of the right embankment to a distance of 10 feet from the right end of the spillway – re-vegetate if necessary. **It appears that this has been maintained with limited re-growth;**
10. Prepare and submit an operational procedure plan. The plan should describe the control of impoundment levels, monitoring and maintenance procedures, and identify emergency contact personnel. **This has not been completed;**
11. Monitor the areas of historical seepage on the left abutment, adjacent to the outside of the downstream spillway abutment wall. **The seepage is being monitored on a continual basis;**
12. Monitor the areas of Guniting patchwork. **Deterioration of guniting continues to increase;**
13. Consider repairing the eroding concrete inside the intake works, if not monitor this area. **No work has been conducted in this area;**
14. Monitor the downstream side of the downstream right retaining wall. It appears to have some undermining. **This was covered with snow on this date and could not be observed.**

DES believes that the above deficiencies can be corrected by performing the following items by the indicated schedule:

**June 1, 2004:**

1. Prepare and submit an O&M plan. The plan should describe the control of impoundment levels, monitoring and maintenance procedures, and identify emergency contact personnel. This plan should also include the following information outlined in the previous LOD:
  - a. Monitor the areas of historical seepage on the left abutment, adjacent to the outside of the downstream spillway abutment wall until such time that repairs can be implemented as outlined in issue #2 below;
  - b. Monitor the downstream side of the downstream right retaining wall for further undermining and repair as necessary;
  - c. Monitor the areas of Guniting patchwork and repair as necessary;
  - d. Monitor and repair rodent holes as they develop;

**August 1, 2004:**

2. Develop a plan to repair the seepage/leak in the left retaining wall prior to December 1, 2004 and monitor the seepage/leaking on a biweekly basis until such time that the repairs can be implemented. If the seepage/leaking continues to worsen contact our office, as lowering of Poole Pond may become necessary as a precautionary measure;
3. As part of your repair plan, address the following issues as indicated in the previous LOD:
  - a. Repair the crack on top of the left upstream retaining wall, toward the far upstream side. Cracks such as this one may be contributing to the leakage noted through the downstream face of the dam in this area;
  - b. Patch the small area of spalling on the spillway crest – near the left spillway abutment wall toward the downstream side;
  - c. Repair the cracks on the top, along the upstream and downstream portions, of the right abutment walls;
  - d. Repair the eroding concrete inside the intake works;
4. Fill and level the right earthen embankment adjacent to the right spillway abutment such that it is flush/even with the top of the abutment;
5. Fill and revegetate any erosion/rodent holes occurring on the left or right embankments as needed; and
6. Cut all trees on the left embankment – from the park sign toward the dam, including the large trees and brush still remaining along the left embankment. Also, remove the large beech tree near the base of the right downstream concrete masonry-training wall.

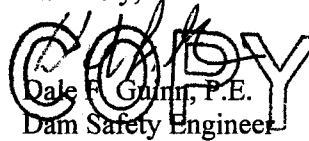
DES is requesting that you complete and submit the attached "Intent to Complete Repairs" form, within 30 days of receipt of this letter, that will provide for correction of the identified deficiencies by the date(s) indicated above. Please call or write to our office if the repairs are completed ahead of the aforementioned schedule so that DES may schedule a follow-up inspection. Unless notified otherwise, DES will conduct the follow-up inspection on or after the date(s) indicated above. If you believe changes to the items of work or dates are necessary, please make the changes directly on the form and provide a brief explanation. We have enclosed a self addressed stamped envelope for you to return this form.

Our intent in sending you this correspondence is to make you aware of items that DES believes warrant your attention to insure the continued safe operation of your dam. It is our hope that, through the submittal of the attached form and a commitment to keeping a well-maintained dam, you will voluntarily comply with the requested items of work. If we do not receive the intent form or a similarly adequate written reply, we will assume that you are in agreement with our findings and recommendations and DES will carry out follow-up inspections accordingly.

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April 16, 2004  
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If you have any questions or comments regarding this Letter of Deficiency or would like to be present at future inspections, please contact me at 271-3406, or write to the Water Division at the address listed on the bottom of the cover page.

Sincerely,

  
Dale F. Ginn, P.E.  
Dam Safety Engineer

Attachments Guideline for an O&M Plan, Sketch Illustrating Deficiencies, DB8, DB13  
cc: Gretchen R. Hamel, Legal Unit Administrator ✓  
Certified # 7000 1670 0000 0585 9831  
DFG/was/h:/safety/wendy/lod/124-14lod.doc